Fleet Energy Training Forum

Vision, Strategy and Guidance

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U.S. Fleet Forces Command

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ENERGY READINESS KILL CHAIN

MEANS
Personnel
Equipment
Training and Tools
Policy / Lessons Learned
Community / Industry
Installations
Elected Officials

WAYS

ENERGY POLICY AND TARGETS	NEW ENERGY SYSTEMS AND TECHNOLOGIES	ENERGY BEHAVIORAL /CULTURE CHANGE
DELIVER Energy Conservation Guidance, Systems, Training, Ship Visits and Oversight		EMBRACE Energy-Efficient Habits and Practices

ENDS

FRTP: MAINT | BASIC | INTEGRATED | DEPLOY & SUSTAIN

EXECUTE
Energy–Conscious Operations

Assess

Weapon Systems
- SURFACE
- AVIATION
- SUBMARINES
- NECC
- MSC

SECNAV & OPNAV PROVIDE POLICY, TECHNOLOGY, AND RESOURCES

USFF TRAINS, CERTIFIES AND EQUIPS COMBAT-READY FORCES

TYCOMS LEAD THE ENERGY CULTURE CHANGE

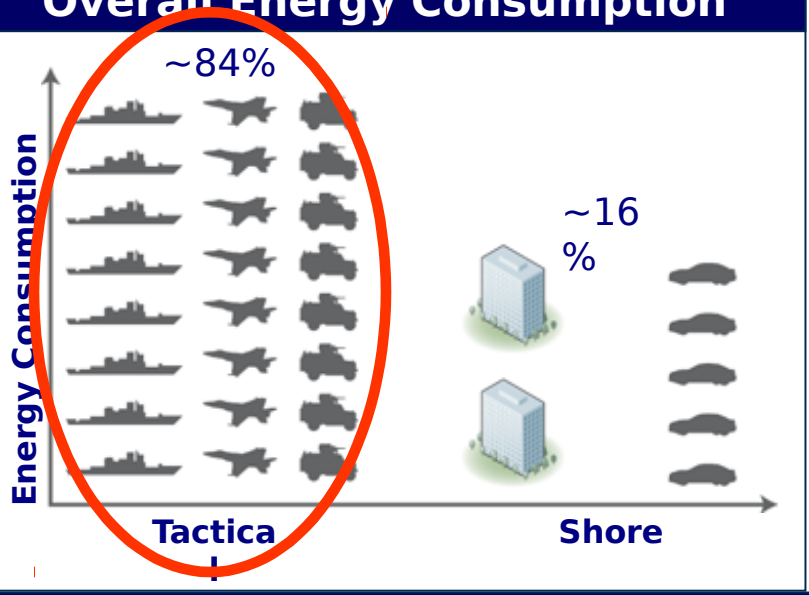
SYSCOMS SUPPORT THE TYCOMS

UNITS MAKE THE DIFFERENCE

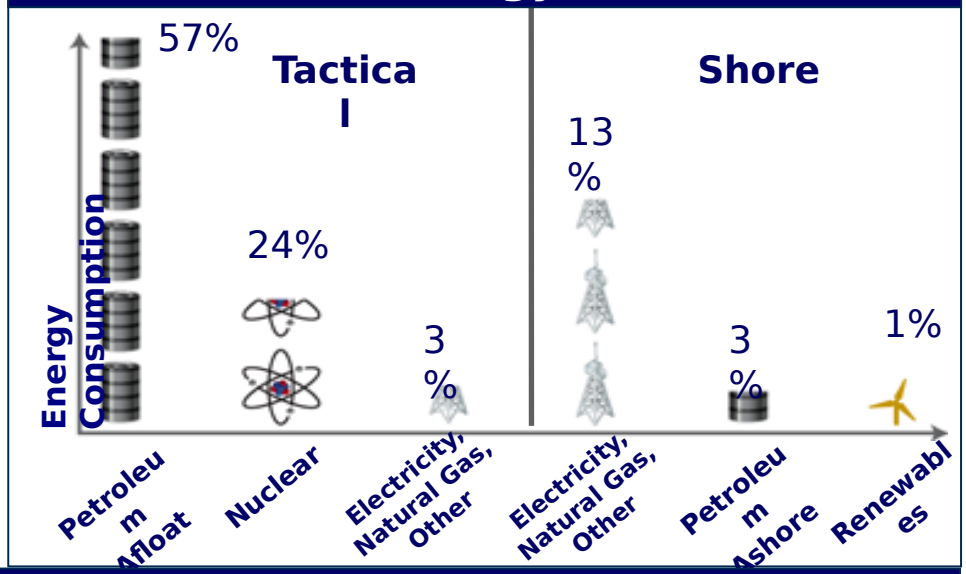
RKC IS A TEAM SPORT: SAVE ENERGY *UNLESS YOU CAN'T!*

Navy Energy Challenge

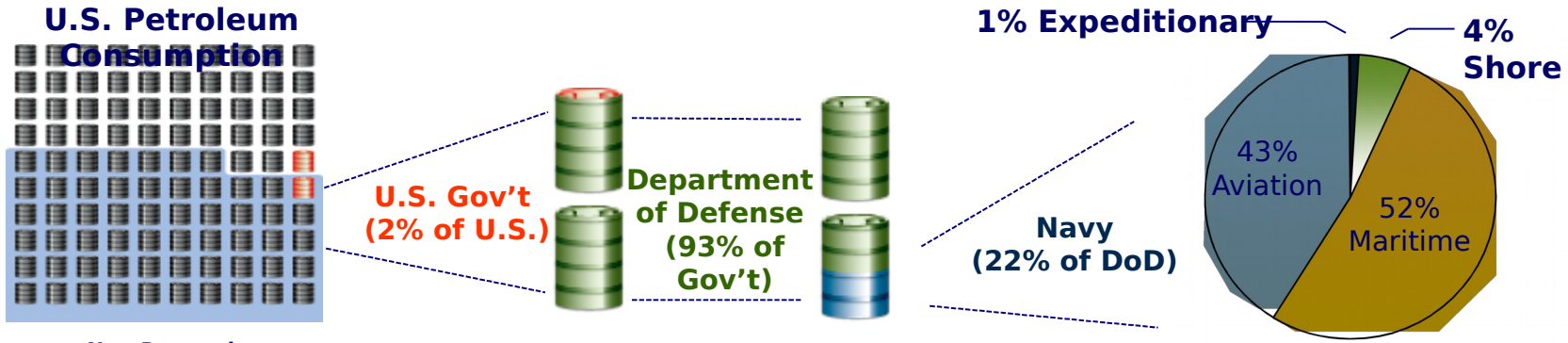
Overall Energy Consumption



Overall Energy Sources

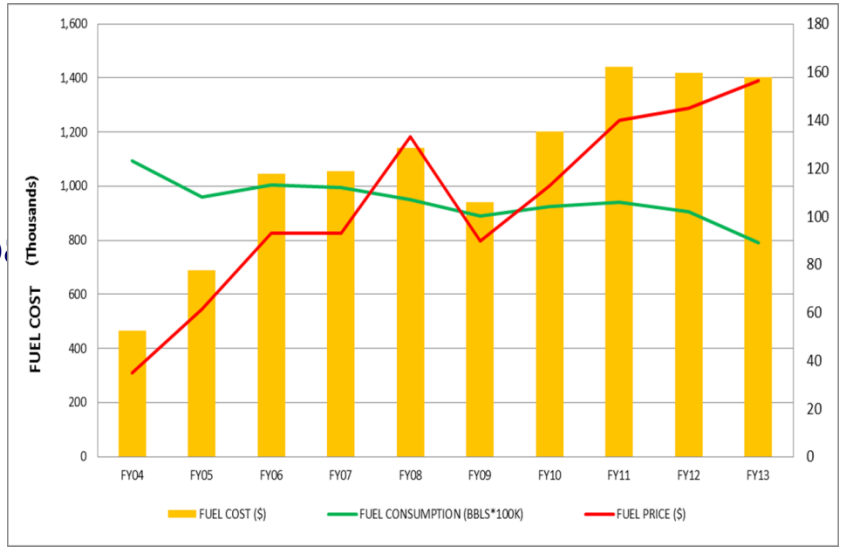


Navy Petroleum Consumption in Perspective



How We Got Here

- **CONSERVATION CATALYSTS**
  - **Imported energy comes from unstable regions**
  - **Energy price shocks have had imp**
    - **Four fold increase over 10 years**



- **CONSERVATION DRIVER HISTORY**
  - **Operational allowances masked excessive consumption**
    - **If forces stayed within limits, excess consumption was not apparent**
  - **USFF paid the waterfront's inport utility bill**
  - **Fleet utility account took 5% reductions in 2012, 2013 (and beyond)**

US Navy Energy Goals

SECNAV TARGETS

Increased Alternatives Afloat 2020	50% of total DON energy consumption from alternative sources
Increased Alternatives Ashore 2020	At least 50% of shore-based energy from alternative sources; 50% of installations net-zero
Reduce Non-Tactical Vehicle Petroleum Use 2015	Reduce petroleum use in commercial vehicle fleet by 50%
Sail the "Great Green Fleet" 2012/2016	Green Strike Group: local operations/sail
Energy Efficiency Acquisition	Evaluation of energy factors mandatory when awarding systems/buildings contracts

CNO TARGETS

Reduce Consumption Afloat 2020	Navy will increase efficiency and reduce consumption afloat by 15%
Reduce Consumption Ashore 2020	Navy will increase efficiency and reduce consumption ashore by 50%
Protect Critical Infrastructure 2020	Navy's critical infrastructure will have reliable backup/redundant power systems where viable

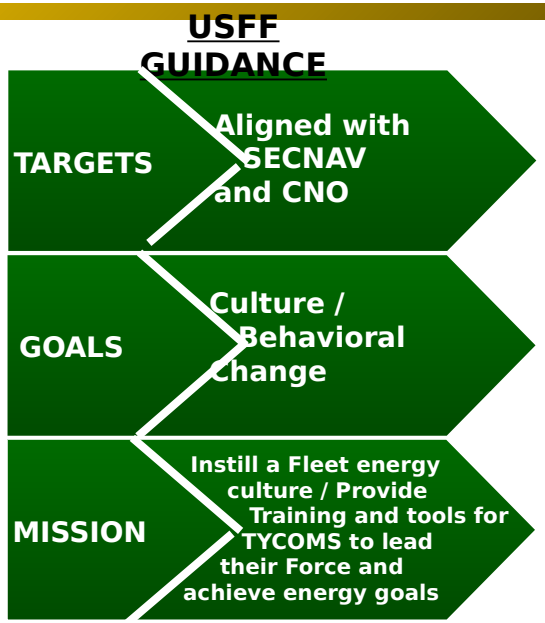
USFF GUIDANCE

TARGETS	Aligned with SECNAV and CNO
GOALS	Culture / Behavioral Change
MISSION	Instill a Fleet energy culture / Provide Training and tools for TYCOMS to lead their Force and achieve energy goals

ENERGY SECURITY … MORE CAPABLE FORCES … INCREASED RELIABILITY

CUSFF Vision and Strategy

- **Fleet Vision**
  - Use the least amount of energy required thereby:
    - Increasing operational range / time on station
    - Reducing logistical vulnerabilities
    - Conserving resources for other priorities
- **Fleet Strategy**
  - Provide vision and guidance
  - Provide tools, resources and incentives
  - Measure progress / provide feedback
  - Recognize good behavior
  - Identify and correct over-consumption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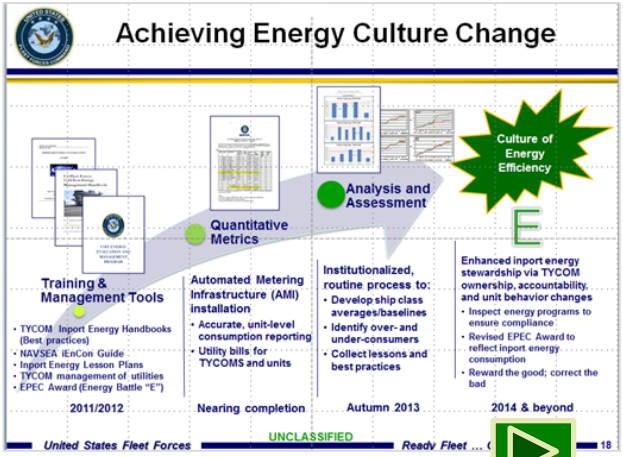
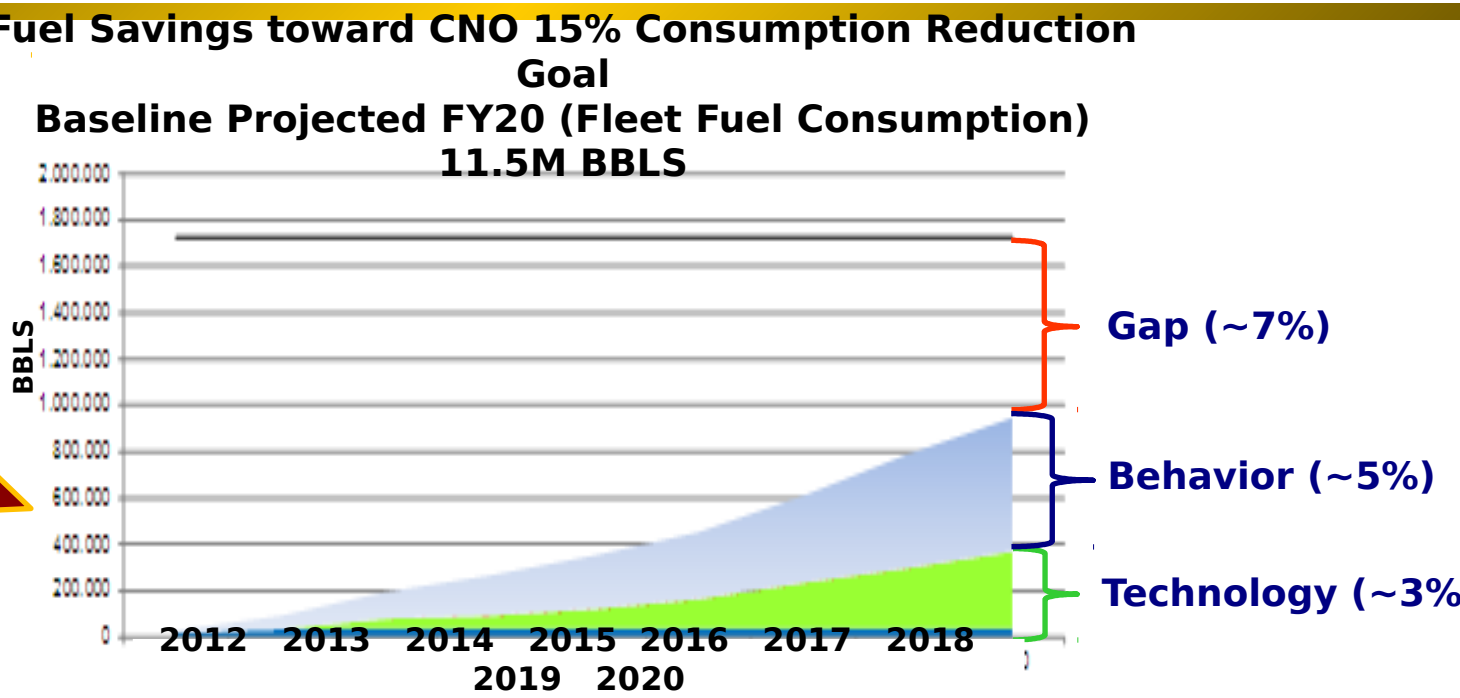


Reaching the Goal

How do we bridge the gap?



- **Constrained by:**
  - *Financial resources*
    - Current budget environment limits how fast technology solutions can be implemented
  - *Culture*
    - Balancing energy conservation measures with operational missions and risk management

Establishing the New Normal…

Commander's Guidance

- **Foster energy conservation through *Culture Change***
- **Equip TYCOMs for success**

USFF provide enabling training resources

USFF establish appropriate management oversight

USFF assesses energy conservation progress

TYCOMS measure consumption and assess compliance

TYCOMS/SYSCOMS establish class goals & standards

SYSCOMS install enabling conservation technology

Recognize the good; correct the bad

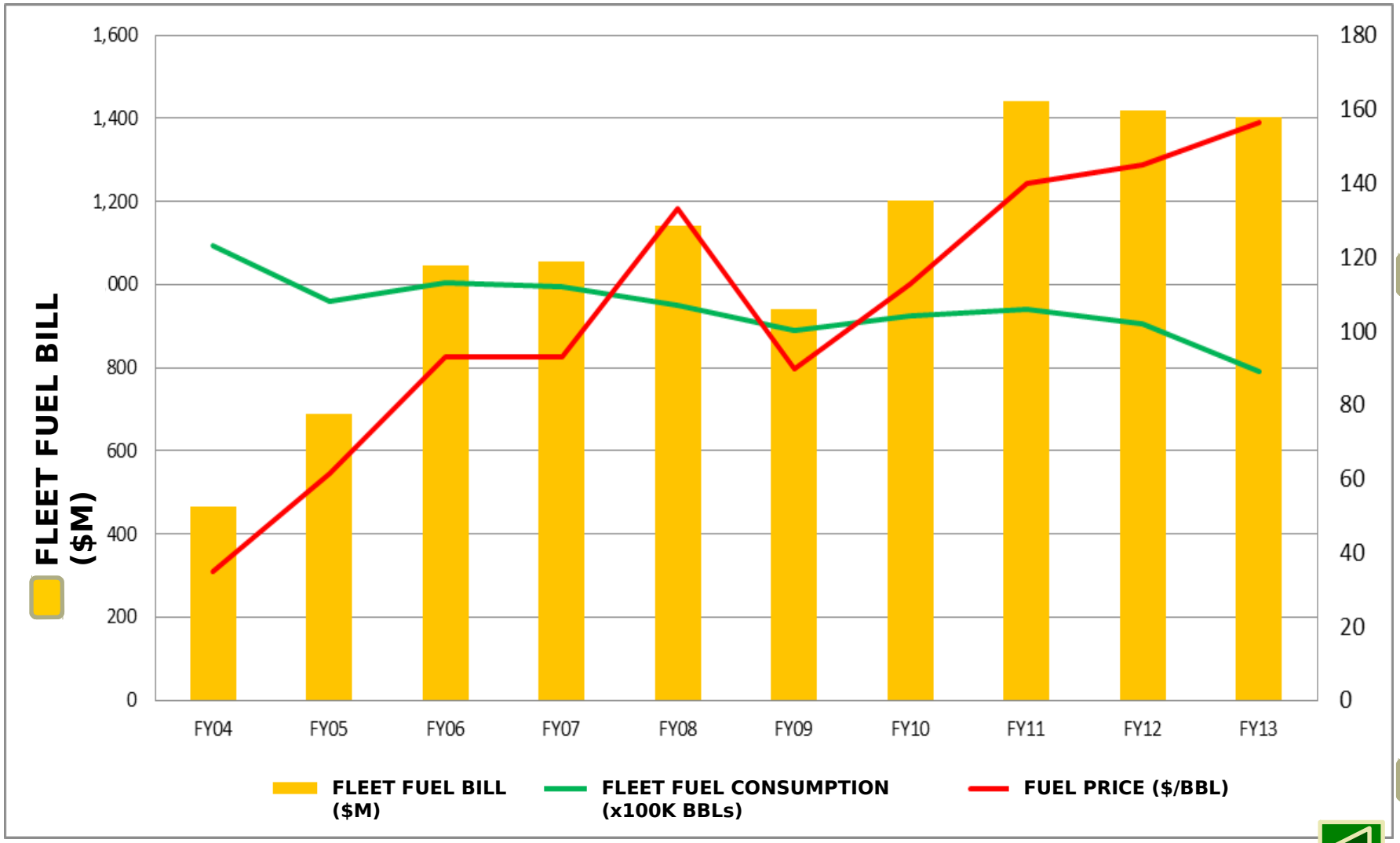
Ownership at the deckplate guarantees success

The New Normal
"Save energy unless you can't"

UNITED STATES
FLEET FORCES COMMAND

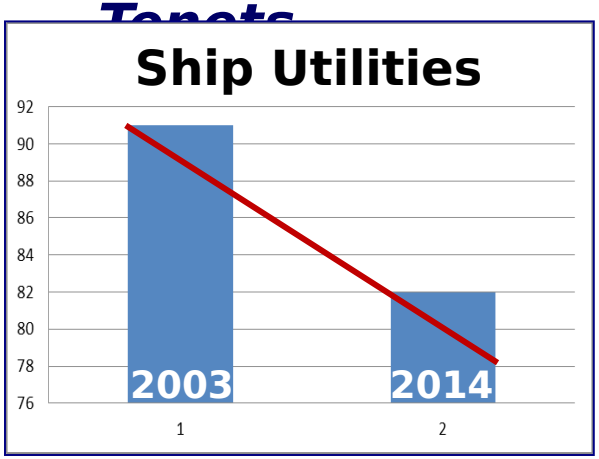
Historical Fuel Rates, FY04-FY13

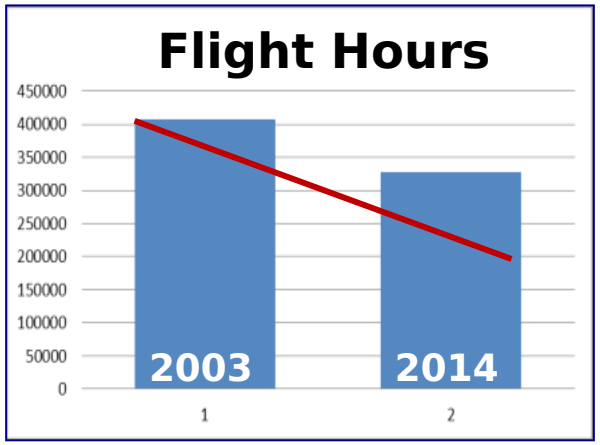
Combined USFF-CPF

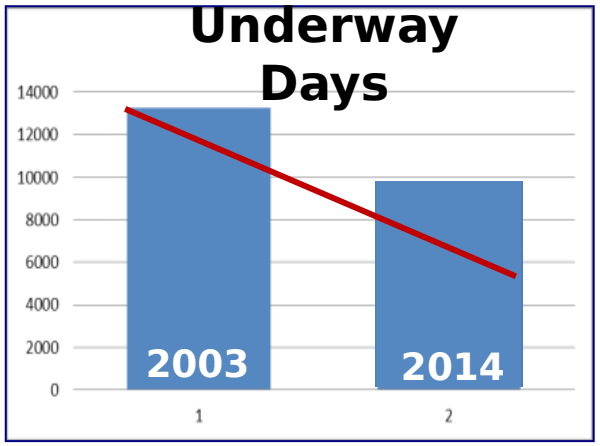


Why Conservation Matters

- ***"Warfighting First … Operate Forward … Be Ready" – CNO Tenets***

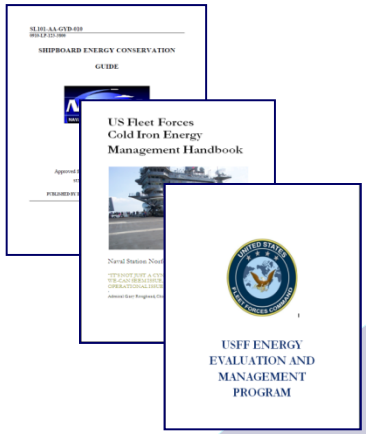


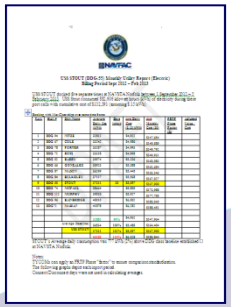


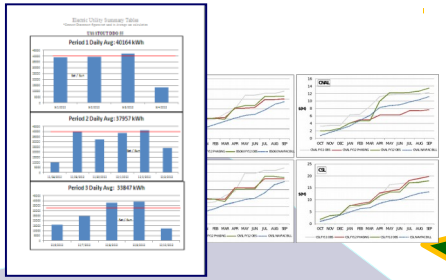


- **Navy resources are declining…no relief in sight**
- **Efficiency makes sense**
  - **More time on task, less time spent refueling**
  - **Less shuttling of Fleet Oilers**
  - **Less reliance on fuel stocks from unstable regions**
- **SECNAV's 2009 Energy Goals changed the playing field**
  - **Energy no longer free**
  - **Energy vulnerabilities are real**

Achieving Energy Culture Change


SHIPBOARD ENERGY CONSERVATION GUIDE
US Fleet Forces Cold Iron Energy Management Handbook
USFF ENERGY EVALUATION AND MANAGEMENT PROGRAM





Culture of Energy Efficiency

Quantitative Metrics

Analysis and Assessment

E

Training & Management Tools

- TYCOM Inport Energy Handbooks (Best practices)
- NAVSEA iEnCon Guide
- Inport Energy Lesson Plans
- TYCOM management of utilities
- EPEC Award (Energy Battle "E")

2011/2012

Automated Metering Infrastructure (AMI) installation

- Accurate, unit-level consumption reporting
- Utility bills for TYCOMS and units

Nearing completion

Institutionalized, routine process to:

- Develop ship class averages/baselines
- Identify over- and under-consumers
- Collect lessons and best practices

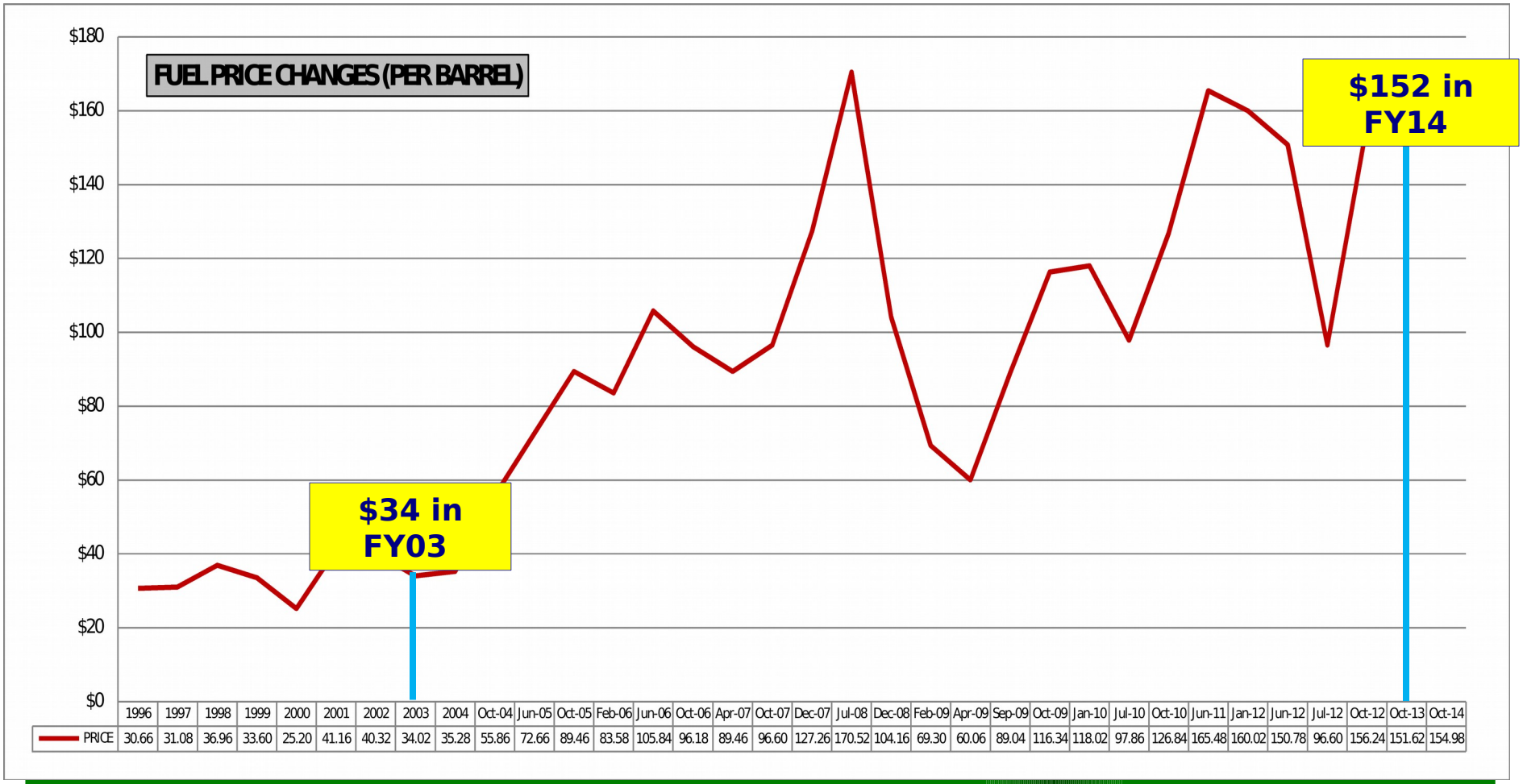
Autumn 2013

Enhanced inport energy stewardship via TYCOM ownership, accountability, and unit behavior changes

- Inspect energy programs to ensure compliance
- Revised EPEC Award to reflect inport energy consumption
- Recognize the good; correct the bad

2014 & beyond

Fuel Prices



	1996	1997	1998	1999	2000	2001	2002	2003	2004	Oct-04	Jun-05	Oct-05	Feb-06	Jun-06	Oct-06	Apr-07	Oct-07	Dec-07	Jul-08	Dec-08	Feb-09	Apr-09	Sep-09	Oct-09	Jan-10	Jul-10	Oct-10	Jun-11	Jan-12	Jun-12	Jul-12	Oct-12	Oct-13	Oct-14
PRICE	30.66	31.08	36.96	33.60	25.20	41.16	40.32	34.02	35.28	55.86	72.66	89.46	83.58	105.84	96.18	89.46	96.60	127.26	170.52	104.16	69.30	60.06	89.04	116.34	118.02	97.86	126.84	165.48	160.02	150.78	96.60	156.24	151.62	154.98

Impact … For every dollar increase in the price of a barrel of oil, the Navy must spend $31 million annually of UNBUDGETED funding